Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of )
)

AMENDMENT OF PART 15 REGARDING ) ET Docket No. 04-37
NEW REQUIREMENTS AND )
MEASUREMENT GUIDELINES FOR ACCESS )
BROADBAND OVER POWERLINE )
SYSTEMS )

To The Commission

Comments From Merrill L. Stevenson

The author has worked in both commercial banking and state government for over 30 years. In the field of banking, the author worked as a senior bank executive and credit administrator for a variety of regional banks for a period of 15 years. In the area of government, the author is currently working for state government and is involved in providing infrastructure financing for local government.

I. Interference From Broadband Power Line Systems

Through the Notice of Inquiry process a significant amount of technical information was submitted to the Federal Communication Commission (FCC) supporting concerns that Broadband Power Line (BPL) operations threaten to interfere with users of the High Frequency (HF) spectrum. It may serve the Commissioners to once again identity those MF, HF, VHF and UHF spectrum users that have concerns about BPL implementation.

A number of organizations came forward to express their concerns that the implementation of BPL will create interference problems. Many provided the FCC will sufficient preliminary technical data and general statements of concern to conclude interference problems from BPL installations may be a real possibility. Those organizations included the following:

1) American Radio Relay League (ARRL)
2) Amherst Alliance
3) Radio Amateur Satellite Corporation
4) Amateur Radio Research and Development Corporation
5) North American Shortwave Association
6) National Association of Shortwave Broadcasters
7) Public Safety Wireless Network
8) Association for Maximum Service Television Inc.
9) National Association of Broadcasters
10) Wireless Communications Association International Inc.
11) National Academy of Sciences
12) Qwest
13) Sprint
14) Harris Corporation

15) National Telecommunication and Information (NTIA)
16) Federal Emergency Management Agency

During the course of the Notice of Inquiry regarding 03-104 and subsequently after, several of BPL companies made claims that the potential for interference was unsubstantiated. While BPL providers insist that interference problems will not occur, there remains numerous informal observations and limited field studies to indicate that an interference problem is present.

Recently two additional well known and technically competent organizations have come forth to express concerns about BPL interference problems. This includes the International Telecommunication Union and British Broadcasting Corporation.

International Telecommunication Union
A subcommittee of an International Telecommunication Union panel of technical experts responsible for terrestrial broadcasting issues has joined a growing chorus of concern about the interference potential of power line telecommunication (PLT)--better known in the U.S. as Broadband over Power Line (BPL). ITU Radiocommunication Sector (ITU-R) Sub Working Group (SWG) 6E1 expressed the view that interference produced by systems employing PLT would compromise broadcast reception.

British Broadcasting Corporation
The Research and Development branch of the highly regarded British Broadcasting Corporation (BBC) has released a White Paper reporting on a brief trial in Scotland. The two competing PLT/BPL systems in operation in the town of Crieff both interfered with HF reception.
Tests were conducted at four locations. "The forms of access PLT that were tested in Crieff were found to have demonstrable potential to cause interference to indoor reception of broadcasting in relevant bands," the White Paper concluded. Significant interference even occurred in one residential area with an underground power distribution cable. BBC engineers described the interference as varying between "annoying" and "a level sufficient to make the broadcast completely unintelligible." Before commercially licensing PLT, the report advised, regulators need to undertake further study of other PLT systems and, among other issues, look into possible ways to make the PLT systems compatible with radio reception.

II. ADAPTIVE INTERFERENCE MITIGATION
As part of this rule making file, the FCC put forth the concept of Adaptive Interference Mitigation. In essence the FCC recognizes that the implementation of BPL will in fact interfere with spectrum users if the system is allowed to operate on a widespread basis. In order to make the implementation of BPL palatable the FCC is proposing certain mitigation techniques to cure interference
problem.

Switching To Another Frequency
It has been proposed that BPL generated inference be handled in way that would involve switching frequencies when interference complaints were received. Unfortunately while this technique could be coordinated with a small group of users such as public safety users, the likelihood of this being a feasible option for an area that might included several hundred amateur radio operators and

shortwave listeners is not realistic. The response time from BPL operators (utilities and local municipalities) would likely be poor and uncoordinated.

Spectral Masking
The concept of spectral masking has existed for a time and the concept applies will to those situations in a controlled environment and optimally performing equipment. However when applied to real world situations the functionally begins to decline. This will be even more of an issue with BPL installations due primarily to the use of powerlines as unintended radiators. Problems will likely
include:

Operator error
Improperly maintained equipment
Unintended antenna influences (powerlines acting as antennas)
Equipment breakdowns
Interference problems as a result of high power output
Unexpected intermodulation problems

III. Conclusion
The case for potential BPL interference has been made and continues to be made. The FCC has elected to look past this evidence to view the benefits of BPL while not giving enough realistic consideration to the harmful interference BPL will create as it attempts to be the third leg of Internet access. The FCC appears to want the political benefits of BPL but has failed to realize the potential interference problems that BPL implementation may bring. On the FCC web site the following introduction is provided to viewers.

"Whether you're listening to the radio, watching TV, talking on the phone, or using your pager-you're involved in communications. The Federal Communications Commission is working to make sure the nations communications systems are working seamlessly and competitively in your best interest. The Commission realizes that to serve you well we must be efficient, effective and responsive".

Unfortunately, the implementation of BPL on a large scale will allow BPL providers to overlap existing MF, HF and VHF spectrum users creating major problems. The spectrum will no longer be seamless but chaotic and inefficient due to this overlapping.

The FCC has taken the position to promote the concept of adaptive interference mitigation techniques thus placing the burden of interference mitigation on licensed users while allowing BPL technology to flourish at the expense of current licensees. The course is clear and the FCC should recognize that current Part 15 emission limits are inadequate when it comes to BPL interference concerns and further restrictions are needed. To do otherwise is to evade regulatory responsibility in favor of political expediency.

I want to thank the FCC to for allowing to me add these comments to this rule making file.

Respectfully Submitted
Merrill L. Stevenson